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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,751	06/27/2003	Hermann Boss	M1211/20011	7334
3000	7590	09/03/2004	EXAMINER	
CAESAR, RIVISE, BERNSTEIN, COHEN & POKOTILOW, LTD. 11TH FLOOR, SEVEN PENN CENTER PHILADELPHIA, PA 19103-2212			NATALINI, JEFF WILLIAM	
			ART UNIT	PAPER NUMBER
			2858	

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/607,751

Applicant(s)

BOSS ET AL.

Examiner

Jeff Natalini

Art Unit

2858

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/27/03.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (EP0296822) in view of Kasten (6114858).

In regard to claims 1 and 7, Yoshida et al. discloses a procedure/apparatus to determine noise of an electronic object (pg 2 line 6-7; in this case the object is a demodulator of a digital transmission system) comprising: inputting a signal into the electronic object (pg 2 col 16-19); measuring an associated power level with the signal power level and the noise power level determined separately (pg 2 line 19-22).

Yoshida et al. lacks wherein the signal inputted is a sine wave and wherein a level meter determines the power level.

Kasten teaches driving a device under test with a sine wave in order to measure the noise factor of the device (abstract). The use of a level meter to measure power of a signal under test is known in the art (applicant also admits to this in the specification pg 1 line 9).

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Yoshida et al. to use a level meter for determining

power as well as input a sine wave into the electronic object as taught by Kasten in order to provide at least two test signal frequency bands (col 3 line 50-54).

In regard to claims 2 and 8, Yoshida et al. discloses wherein a sample value is determined by taking samples of the signal power level (pg 2 line 37-39) and taking the arithmetical average of the samples and subsequent squaring of the average of the samples (pg 2 line 41-42; (fig 1 (2,3,4))).

In regard to claims 3 and 9, Yoshida et al. discloses wherein the noise power level is obtained by taking an arithmetic average of the amount squared of the samples (fig 1 (5, 6)) and the subtraction (fig 1 (7)) of the sine power level (fig 1 (2,3,4); pg 3 line 42-43).

In regards to claim 4 and 10, Yoshida et al. discloses wherein prior to taking the average value an estimation and revision of a deviation of the frequency of the input signal from the frequency of an local oscillator are carried out (pg 2 line 16-20, in the reference, a band-pass filter acts as in the same way a local oscillator would as it revises the input signal accordingly).

3. Claims 5-6 and 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (EP0296822) in view of Kasten (6114858) as applied to claims 1 or 7 above, and further in view of the admitted prior art.

In regard to claims 5 and 11, Yoshida et al. and Kasten lack wherein the magnitude of the noise is the noise temperature T_{dut} of the object to be measured, wherein the noise temperature is determined by the formula:

$$T_{DUT} = \frac{P_{sin}}{k \cdot B_N} \cdot \frac{P_{MESS_{noise}}}{P_{MESS_{sin}}}$$

The admitted prior art (DE4122189) takes more measurements of data in calculating the noise temperature of the object to be measured. It is stated that the formula of claim 1 in DE 4122189 (in the admitted prior art) is derived in the same way applicant is calculating noise temperature (Specification: pg 10 line 8-10). By using this formula:

$$T_M = \frac{1}{k \cdot B_S} \frac{P_1 \cdot (P_{2M} - P_{2K}) + P_2 \cdot (P_{1K} - P_{1M})}{(P_{1M} - P_{2M})}$$

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Yoshida et al. and Kasten to incorporate the teaching of the admitted prior art and determine the noise temperature after measuring separately the noise and power of the sine, thus eliminating P2 while (P(1m) – P(2m)) would become only the sine power and (P(2m)-P(2k)) would be only the noise power, thus having the equivalent of the applicants equation for noise temperature in order to compute the noise temperature as related to the magnitude of the measured values (specification pg 1 line 20-22).

In regard to claims 6 and 12, Yoshida et al. and Kasten lack wherein a calibration precedes the measurement in which the sine signal has a level identical to the measurement level; the sine signal is input directly into the level meter by passing the object to be measured; the magnitude of the noise temperature is determined by the formula:

$$T_{OUT} = \frac{P_{1m}}{k \cdot B_H} \cdot \frac{(P_{MEAS,noise} - P_{CAL,noise})}{P_{MEAS,noise}}$$

Admitted prior art discloses the sine-signal can be toggled between two power levels (Specification: pg 1 line 10-11). It then discusses a calibration (pg 1 line 12), and it is known in the art to make a proper calibration the level should remain the same, and measurement (pg 1 line 12-13) would thereby have the same value as the sine level. The sine signal source is connected directly to the level meter without an interposed switching of the measured object (pg 1 line 13-14). Formula in patent DE 4122189 (specification pg 10) is very similar to applicants.

It would have been obvious to one with ordinary skill in the art at the time the invention was made for Yoshida et al. and Kasten to incorporate the teaching of the admitted prior art by calibrating the sine signal to have the same level as the measured level and have the level meter directly connected to the sine signal source to measure the noise temperature; whereby eliminating P2 (because noise and power of the sine are measured separately in Yoshida et al.) while P(1m) is the sine power, P(2k) is calibrated power (specification pg 10 line 8), and (P(2m)-P(2k)) would be only the noise power, thus having the equivalent of the applicants equation for noise temperature in order to enable computation of the noise temperature as related to the magnitude of the measured values (specification pg 1 line 20-22).


Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grace et al. (5191294) discloses determining the noise parameters of a device under test and also calculates the noise temperature. Seki et al. (6032026) teaches that a signal is unstable because it is varied by noise, so in order to assure accuracy, it is necessary to calculate a mean value over a long period.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Natalini whose telephone number is 571-272-2266. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, N. Le can be reached on 571-272-2233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


JAY PATIDAR
PRIMARY EXAMINER

Jeff Natalini



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